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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/807,230

03/24/2004

Kikuo Maeda

2004_0446A

4536

513 7590 04/12/2007
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EXAMINER

KRAUSE, JUSTIN MITCHELL

ART UNIT

PAPER NUMBER

3682

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/807,230

Applicant(s)

MAEDA ET AL.

Examiner

Justin Krause

Art Unit

3682

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-16 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/17/06, 3/24/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: "compliment" is misspelled. The proper spelling is --complement--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the phrase "imparted by heat treatment including carbonitriding and induction hardening" is unclear because it is unclear what the process is. The phrase is readable as:

[heat treatment] including [carbonitriding] and [induction hardening]

[heat treatment including carbonitriding] and [induction hardening]

[heat treatment including carbonitriding and induction hardening]

or the phrase is readable as a broad recitation "heat treatment" further including a narrower recitation "carbonitriding and induction hardening". It is unclear how many processes are taking place and if they are taking place simultaneously or separately.

In claim 4, the phrase "high temperature tempering" is indefinite because there is no basis for comparison of what constitutes "high temperature".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, and 8, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Takagi et al (US Patent 5,560,787).

Takagi discloses a bearing steel for the inner race, outer race or rolling elements of a bearing with a surface layer of one of the inner ring and outer ring has a compressive stress of 225-400 MPa imparted therein by a heat treatment process (Col 5, lines 10-13).

Regarding claim 2, the hardness of the surface layer is not less than 550 Hv (see fig 1).

Regarding claims 4 and 8, the steel undergoes a tempering process.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is

unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 7 and 9, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi as applied to claim 1 above, further in view of Yoshida et al (US Patent 5,803,993).

Takagi does not disclose a prior austenite grain diameter.

Yoshida teaches a steel with a prior austenite grain diameter within the claimed range of 10 or more for the purpose of obtaining desired torsional fatigue strength. (Col 7, lines 23-27). Yoshida also teaches the steel to have a hardness of greater than 720 Hv (col 7, line 28) and surface compressive stress of 850 MPa (col 8, line 14).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Takagi to have a prior austenite grain diameter greater than 10 for the desired purpose of obtaining desired torsional fatigue strength as taught by Yoshida.

Regarding claim 9, the steel of Takagi undergoes a tempering process.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claims 5, 6, 10, 12, 13, 15, and 16, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi as applied to claims 1, 2, and 4 above, further in view of Fredericksen et al (US Patent 4,878,463).

Takagi does not disclose the rolling elements to be arranged in a full complement arrangement or mounted in a rocker arm of an automobile.

Fredericksen teaches a needle roller bearing arranged in a full complement arrangement (claim 3) for the purpose of having a bearing on which the loading is distributed, reducing valve train friction, increasing engine performance, reliability and life expectancy of the rocker arm, lower costs and allow easy installation (Col 1, lines 31-36).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Takagi to use the steel in a full complement bearing in an automobile rocker arm for the desired purpose of having a bearing on which the loading is distributed, reducing valve train friction, increasing engine performance,

reliability and life expectancy of the rocker arm, lower costs and allow easy installation as taught by Fredericksen.

Claims 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi in view of Yoshida as applied to claims 1 and 3 above, further in view of Fredericksen.

Takagi in view of Yoshida does not disclose the rolling elements to be arranged in a full complement arrangement or mounted in a rocker arm of an automobile.

Fredericksen teaches a needle roller bearing arranged in a full complement arrangement (claim 3) for the purpose of having a bearing on which the loading is distributed, reducing valve train friction, increasing engine performance, reliability and life expectancy of the rocker arm, lower costs and allow easy installation (Col 1, lines 31-36).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Takagi to use the steel in a full complement bearing in an automobile rocker arm for the desired purpose of having a bearing on which the loading is distributed, reducing valve train friction, increasing engine performance, reliability and life expectancy of the rocker arm, lower costs and allow easy installation as taught by Fredericksen.

Conclusion

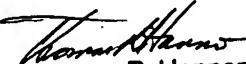
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Krause whose telephone number is 571-272-3012. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMK
JMK 4/18/07


Thomas R. Hannon
Primary Examiner